READING INTERPRETATIONS: INDIAN AND BANGLADESHI POSTGRADUATE STUDENTS' USE OF EXTRATEXTUAL FRAMING AND METACOGNITION

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Abstract

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Reading is a complex skill, vital for the postgraduate student. However, many international postgraduate students experience considerable difficulty when applying their reading practices learnt in their own countries. This paper, part of a larger study, ch aims to provide insights into the reading practices of Indian/Bangladeshi postgraduate students while studying at an Australian university. Data were collected through case studies conducted in India and at an Australian university. Significant differences were found between the reading of general-interest text and academic text and differences were also found between the reading practices undertaken in first and third semesters. Pedagogical implications are discussed.

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Background

Education is Australia's fifth largest export earner and yet, despite the importance of international students, both financial and cultural, there are gaps in expectations between academic staff and students which still need addressing. Although the importance of reading for academic study cannot be overemphasized, reading problems and the expected outcomes have been cited as one of the most neglected problems facing international postgraduate students (Smith, 1998). While academic staff often express concerns regarding the learning/study approaches of international students (Ninnes 1999; Zuber-Skerritt, 1994), and the English as a second language (ESL) literacy (Fitzgerald, 1995), few of these students have themselves been asked for their views on their learning, or specifically, their reading approaches. Indeed there is a lack of research on postgraduate research practices and supervision (Zuber-Skerritt, 1994). As a result, if supervisors do have some knowledge of their students' cultural-educational backgrounds they still 'may lack specialist skills to help improve outcomes' (Cargill, 1996:177). Reading is a complex skill influenced by background knowledge, educational upbringings, cultural attitudes to reading and expectations regarding the purpose of reading. While international students from a non-English speaking background may read adequately in their own country, they may find that these same reading practices do not fulfil the requirements of a Western university. This is not to imply that their skills are

deficient, rather to suggest that these students may encounter a system which rewards study approaches which are Western rather than international (Ninnes, 1999).

This paper describes a study which aimed to provide insights into the reading practices of Indian/Bangladeshi international postgraduate students while studying at an Australian university. It also set out to discover the socio-cultural and educational influences on these reading practices, some of which would be derived from practices and experiences in the students' home countries.

Literature Review

Much of the reading research has tended to focus on what a reader comprehends, the product of reading, or on particular individual components of the reading process. Moreover, much of the research has focused on reading activities which, while not named as such, are metacognitive in nature. Therefore, this section presents research which, either explicitly or implicitly, reflects metacognitive elements in the study of reading.

Among those researchers interested in the interpretion of texts are Marton, Carlsson and Halasz. Their joint 1992 study, using a phenomenological framework, investigated the differing interpretations of Franz Kafka's parable *Before the Law* and the students' explanations for their interpretations. The participants were from secondary schools in Hungary and Sweden. The Hungarians in the study displayed more advanced understandings and focused on the man and his acts in the text while the Swedish students focused more on the Law. The study implied, according to Marton, Carlsson and Halasz, that there could be better understanding of literary texts by using variation within and between individuals, at the collective level. It also showed, as with other studies, the uniqueness (in thinking and hence in interpretation) of specific groups of readers from different cultural backgrounds.

In a study of a different kind focusing on interpretations, Hinkel (1994) compared native speaker and non-native speaker evaluations of four short essays, two written by native speakers and two by advanced ESL learners. She found disparities in the interpretations between the native and non-native speakers of English. Despite being familiar with English language conventions, the non-native speakers, from South East Asian cultures influenced by Confucian and Taoist conventions, did not seem to share common background knowledge and the contextual assumptions associated with their second language (L2) rhetorical conventions and hence their interpretations were dissimilar to those of the native speakers. As with the Marton et al. study, this study demonstrated that reading practices cannot be generalized.

Yet another study investigating the interpretation of text was that of Saljo (1982). Saljo sought to understand the differences in constructing meaning from a text on learning with Swedish students reading in their own language. The Swedish participants were asked to recall the text and then to answer questions about their reading approaches. Saljo concluded that 'it was the individual's conception of what counts as knowledge in educational contexts which determines how a text is approached and what the outcome is

likely to be' (p.9). Moreover, he found the students' views on knowledge and learning in the university environment were challenged and his findings indicated that, when the context changes, learners will change their assumption of what it means to learn. Surface learning leading to 'gross distortions' (p.197) in understanding of a text was, he stated, a product of the way knowledge and skills are passed to students within certain cultural situations.

Another factor affecting reading, the relationship between background knowledge and reading is well known (Carrell, 1983b; Otero 1998; Reid et al. 1998). Background experiences and educational systems have likewise been shown to influence the way students approach their studies. Kline (1993), using a social practices model of literacy, investigated the reading behaviours of eight undergraduate students in a study abroad programme in France. Data collected over 15 months through interviews, participant observation, inventories, and surveys revealed the existence of a student subculture informed by literacy patterns specific to the programme participants. The subculture arose partly in response to perceptions of French literacies as alienating and college literacies as inappropriate to the new setting. It was marked by gender-differentiated reading habits and by the emergence of small textual communities that functioned to reinforce native language identity. This study highlighted the anxieties and adaptive strategies experienced by speakers of a second language when placed in unfamiliar cultural settings and has implications for the accommodation of international students' learning styles and reading approaches, at least in the short term, in the Australian environment.

Other studies have focused on the particular strategies used by L2 readers and L1 readers. Jimenez et al. (1996) investigated the qualitative differences in understanding two English narrative texts and two English expository texts with eight bilingual Latina/o students considered to be successful English readers. The researchers used the term bilingualism in their study 'in its broad sense to refer to the use of two languages on a regular basis' (p.93). They acknowledged that native-like literacy in a second language is difficult to achieve and they did not attempt to place the students in their study on any part of the language proficiency continuum. They cited studies by Favreau and Segalowitz (1982) and Mack (1984) which showed that even adult bilinguals, who are proficient in both their first and second language, process text more slowly than monolingual adults; these slower reading times were for both their first and second language reading.

What lay behind the success of the Latina/o readers on their study was the strategies they used for negotiating meaning. These strategies included the bilingual strategies of searching for cognates (limited use), code-mixing and translating as well as questioning, re-reading and evaluating – strategies they had learnt to use with their first language. When these students were compared with monolingual readers, it was found that the monolingual did not note as many comprehension problems and accordingly did not record as many comprehension monitoring strategies nor as many repair strategies. This research highlights the fact that bilingual readers, while they may use the same strategies as first language readers, also use a unique set of their own strategies derived

from their first language, such as translating, code-switching and identifying cognates. Translation, in particular, is an important strategy for bilingual readers.

Methodology

The overall design of this study was developed to investigate the reading practices of postgraduate students from Thailand and India/Bangladesh in their first and third semesters at an Australian university and the influences on these reading practices and hence an holistic approach was thought appropriate.
The purpose of the part of the study reported here was:

To investigate the reading practices of Indian/Bangladeshi postgraduate students while studying at an Australian university during their first semester and during their third semester in order to identify the changes which may have taken place in their reading practices since their first semester.

A conceptual framework was developed incorporating theories of framing and metacognition in order to allow as detailed an analysis as possible. Reid et al. (1998) argue that construction of meaning always involves framing. MacLachan and Reid 1994) describe the four types of framing as follows:

Extratextual framing occurs when a reader uses his background knowledge and experience to assist in interpreting the text;

Intratextual framing is when a reader uses cues, such as headings and subheadings, cohesive devices etc. within a passage to interpret;

Circumtextual framing occurs when a reader takes into account the cover of a book or journal, and peripheral features such as title and abstract to build a picture of the text; and

Intertextual framing is when a reader links other readings with his present reading to help make sense of the present reading.

The part of the study reported here investigated, in particular, the extratextual framing utilized when reading.

It also focused on the metacognitive aspect of Self Knowledge. According to Brown (1980), metacognition in reading refers to awareness of one's own reading processes and also refers to one's own understanding and non-understanding of reading strategies, and of monitoring comprehension during reading. Another aspect of metacognition, the notion of self-efficacy, embodying the elements of self-appraisal and self-management, is generally accepted as part of any definition of metacognition (Paris and Winograd, 1990). Armbruster et al. (1982) and other researchers discuss reading to learn from a metacognitive perspective as it relates to four specific variables: Knowledge of tasks, Knowledge of text structures, Knowledge of strategies and their applications, and

Knowledge of own learner characteristics/Self. The latter aspect, knowledge of self was a focus of this study.

This study, using an ethnographic approach, incorporated qualitative case studies, an appropriate method when the purpose of the study is to 'provide a rich, intensive description of a single entity and the phenomena surrounding it' (Ivey, 1999:176). The case study design incorporated two individual interviews with each of the six Indian/Bangladeshi postgraduate students in their first semester and again in their third semester to investigate the reading practices involved in interpreting academic text. Pair think-aloud protocols, followed by retrospective interviews, were also conducted in first semester and again in third semester in order to establish how students read general-interest text. The pair think-aloud protocols provided data on the actual metacognitive processes of the students at the time of reading general-interest text; the individual interviews provided information on general aspects of reading and background reading as well as the readers' views on their reading practices related to subject-specific academic text.

The researcher visited an Indian university and gathered data on reading practices through interviews and pair think-aloud protocols with postgraduate students from the disciplines of geology and education (referred to in this paper as India-based participants). Their insights and reflections on their reading practices and the influences from their home country were used to give a better understanding of the reading experiences of the Indian and Bangladeshi participants' while studying at an Australian university.

Profiles

The participants were chosen with commonalities in mind as, according to Schumacher and McMillan (1993), selecting participants with similar experiences to one another is a criterion of ethnographic study. The six Indian/Bangladeshi students had completed their undergraduate studies in their home countries and had just arrived in Australia to undertake higher degree study. The main language they spoke at home was a language other than English. They all had the entrance standard of IELTS 6 as an English language proficiency level.

A1, A2, B1 and B2 came from India. A1's background was in geology and his current topic was coal mining and its impact on the environment. He grew up in a home with books which covered such topics as Indian practical aspects of religion and culture and history. Books as gifts, however, were not very common. A1 had some work experience prior to taking up his postgraduate study.

A2 was studying computing science. Because he was the youngest in his family, he had to stay near home to look after his parents, and had, therefore, studied in a nearby affiliated college to a university. Besides access to texts, it has been shown that contextual features can also influence students' approaches to learning, among them, type of institution, language of instruction and course studied (Ninnes et al., 1999). A2 felt his

undergraduate education was of low status. His studies, in addition, were conducted in Panjabi, adding to his feelings of inadequacy.

The other participants from India, B1 and B2, on the other hand, came from universities of which they were proud, although they spoke later of the differing levels of access to resources. B1 was in the telecommunications field and B2 is a pharmacist; both had had work experience.

Two of the participants, C1 and C2, were from Bangladesh and were medical practitioners. They, too, had both worked for several years.
The postgraduate students interviewed at their university in India were, as mentioned, from the faculties of geography and education.

Texts

For the two pair think-alouds, one in first semester and the other in third semester, two passages were chosen from the 'This Week' segment of New Scientist (1997), one entitled, 'Deadly worm may be turning drug-resistant' and the other entitled 'French officials on poisoning charge'. These particular texts were chosen because they were one page general-interest pieces with intratextual features of a picture, a table and a highlighted sentence situated in the middle of the piece. As the texts both came from the 'This Week' page they also incorporated a similar style of writing, enabling a comparison and examination of the changes in reading practices between first and third semester. In addition, the texts did not require any technical knowledge and the participants could be expected to have some background knowledge of the topics to assist them. The texts, also, did not deal with political, religious or any culturally sensitive matter.

The texts, moreover, comprised only approximately 750 words and so could be read within the time allowance of one hour. (Participants had intimated their lack of time). It was important, too, that participants had the time to read an entire article and not just a few paragraphs of a text. In this way, they could observe the structure of the entire text and use any knowledge they had of intratextual features. The texts, too, were authentic in that there were no 'planted' inconsistencies or errors.

The following is a discussion of the extratextual framing and self knowledge aspects of metacognition involved in the reading practices of the Indian/Bangladeshi cohort in this study.

Extratextual framing/Self Knowledge

Using Workplace Knowledge

Those participants who had knowledge from the workplace were able to apply it to their readings. A1, for example, demonstrated how he could apply knowledge from having worked in his field of coal mining by relating it to the CSIRO text he brought to the interview. He could evaluate the content because of his knowledge of coal quality in

India and demonstrated this ability by explaining that the coal in India, although rich in mineral matter, was uneconomical to wash and research was being undertaken to find more cost effective methods for cleaning the coal. Despite having some knowledge, though, he was aware that his knowledge in the geology field was 'superficial'.

Cultural Differences

Another example of the use of extratextual framing was provided by C1 and C2 who could draw on some general medical knowledge. C1, however, who was studying excessive weight preoccupation found that, as her topic was more a Western than an Eastern problem, her knowledge of Indian cultural practices could cause conflict when she read about the topic from a Western perspective. She explained the different perceptions regarding weight this way:

> *Although young females in Bangladesh like to be slim, magazines do not generally focus on dieting but on healthy eating … if one is over forty years of age, one would generally wear the Shari, because if overweight, one can still look nice.*

The other participant who had background knowledge in the medical field was C2. He had already conducted some research in Bangladesh related to his present study and therefore could draw on this knowledge when interpreting his text on psychiatric morbidity. He, too, had also identified some cultural differences in medical practices. Health in Bangladesh, he explained, was much more of a family matter:

> *If one member of a family is suffering, all the family would be anxious and their harmony will be lost.*

Although noting, and being interested in the cultural differences, C2 was not willing to allow his family to become affected by Western practices and so did not allow his family to watch Australian television believing that many of the programmes were culturally unacceptable. He may have been depriving himself and his family of information regarding social and cultural practices in this country that could have contributed to wider understandings of his research field.

Effects of Lack of Background Knowledge

In contrast to, A1, C1 and C2, A2, the least experienced reader, felt that his lack of background knowledge added to his acute embarrassment and anxiety. He put it this way:

> *When I study something … new subject … I feel very embarrassed, very frightened … it demoralize me and I get nervous … actually if I am understanding I am very happy and if I don't then I become more nervous and nervous.*

There were other reasons for the lack of some participants' background knowledge. B1, for example, stated that he had little background knowledge to draw on for his academic reading because of the level of expertise in his home country in the telecommunications field. What little knowledge he had, he said, came from his studies in engineering at undergraduate level; he added, too, that there were few technical books available. To illustrate the immensity of the knowledge gap he felt, he compared himself to an American child:

> *Possibly he [the author] is living in a world which is 20 years ahead of mine …*
> *If I asked a seventh grade child or an American child about video back-up*
> *systems they would know about them.*

The result of this lack of knowledge was that the participants had to undertake long hours of reading a variety of related texts, i.e. utilize intertextual framing, to learn the basics in their academic disciplines.

Influence of Background Knowledge on the General-Interest Text

All the participants were able, however, to invoke background knowledge when reading the general interest text. The general-interest text discussed attempts to cure *schistosomiasis*, a parasitic condition, through the use of the drug, praziquantel. The parasite, *Schistosoma mansoni*, it was reported by British scientists, could develop resistance to this drug. The WHO and others, however, strongly contested this premise. A1's extratextual framing related to his knowledge of how parasites survived in drought-ridden, mountainous areas of India where there is shallow water. He knew, too, how these parasites can appear 'out of the skin of humans'. For this reason, he reported, he always took boiled water with him on his field trips to the Punjab.

A2, on the other hand, had neither experienced nor read about parasitic problems but had heard about malaria and hence the reason for confusing schistosomiasis with malaria when initially reading the text. The sentence in question read:

> Drug-resistant schistosomiasis is unheard of but scientists fear it is
> possible, given the spread of strains of malaria that are drug-resistant.

A contributory factor may have been the structure of the sentence containing the word, 'malaria'. A2 may have been confused with the past participle 'given' and jumped to the conclusion that the author was discussing drug-resistant malaria which fitted with his schema of malaria and its resistance to cocaine.

Although acknowledging the importance of using background knowledge for reading, A2, nevertheless, reported using the strategy of memorization if all else failed:

> *If you are reading this sort of passage, you must have some knowledge but*
> *if you don't, you have to think about it [the passage] or memorize.*

Making Analogies

Those participants with background knowledge demonstrated also that they could use it to generate analogies. B1 and B2 illustrated this ability by relating the text content to waterborne disease in India. They discussed jaundice which is usually found in the villages in India. They then talked about two plants which clog the waterways despite importing beetles to deal with the plant. These plants, they explained, cause stagnation and then the breeding of mosquitoes takes place. They also mentioned another disease, Dengue fever, and how it is usually contracted by people who 'do not live in good conditions, no good water supply, the area is not clean, no proper sanitation'.

In another example, A2, although misinterpreting the reference to malaria in the text, used a useful analogy in that he related the use of one drug only for both malaria and schistosomiasis:

A2: *… no medicine for malaria except cocaine*
A1: *really*

The use of the word 'really' by A1 shows he is measuring A2's statement against his own expectations. In this case, A2, unlike A1, believed malaria to be a form of schistosomiasis.

B1 and B2, similarly used an apt analogy to explain the resistance to the drug:

B1: *one reason [for the resistance] could be natural phenomenon in the sense when you have a cold, common cold or fever and for every time you get that and you keep on having, oh, let's say, closine or something again and again, your body becomes*
B2: *yea*
B1: *resistant, I mean does not react to the drug.*

One of the India-based group demonstrated how she, too, could relate the immunity issue in the general-interest text to her background knowledge. This student related the text to the specific, polluted conditions she personally had to endure every day around her university. In conjunction with her analogy with her living conditions, she inferred the cause of the drug's ineffectiveness in Senegal.

> *Oh, because I have studied science, connected, so I think I can understand this because our body you know there are certain good amount of germs in the air, only when we are coming to Tuc [university] you can see how much of garbage and dirt is there, so why are we not always having fever or we are not having some disease? – because our body has got a natural immunity and there are antibodies in our body which kill the germs which enter into our body, so I think here he says that maybe the drug why it is not able to affect the spectator.*

Translation

The Indian/Bangladeshi students demonstrated also the use of translation. As one said:

> *It is easier to understand own language and therefore the concepts.*

However they were also aware of the pitfalls. C1 explained:

> *Sometimes the words which I am looking for I can't get in that dictionary [English/Hindi]; then I go [to] another dictionary which is English to English.*

> The India-based cohort explained why they often discussed a text in their own language:

> *Our communication is generally in Hindi; we only read in classes or in books some things in English; we read English books, papers and we only understand that book and written things but we communicate in Hindi so our interpretation in English is not great.*

The fact that the Australia-based students were almost totally discussing their texts in English rather than code switching in first semester shows that a significant shift may already have taken place.

Educated But Not Literate

Although not having specific knowledge related to the general-interest text, the participants were able to not only make analogies and generate inferences but to go 'beyond' the text. For example, the India-based participants discussed literacy in relation to reading. The following dialogue illustrates their intense interest in their environment, their propensity to philosophise and their belief that reading literacy does not fulfil its purpose if people do not address the many problems in India.

Ind.1: *in India literacy means simply you may read or write especially in local language; it is not necessary that you can speak or learn English*

Ind. 2.: *but if we read all these books of history, but if we don't think about life, if we don't think about society, how it should be and what is useful to mankind, then it is useless to become literate*

Ind.1: *awareness is also necessary, awareness to life, awareness to living conditions, awareness to any sort of problems if India is facing pollution problems then people should know about what is the pollution*

Ind.2: *I think you can't be said as a literate person because even as you can see in those department [in the university] also there are teachers who have four or five sons*

Ind.1: …literate persons behave [like] illiterate persons – no difference between illiterate and literate persons

Ind.2: … these are literate but not educated, I think

Ind.1 no, we are educated but we not literate

This dialogue illustrated, moreover, a relational type of learning where the students enjoyed having the opportunity to relate their reading to social issues in their country.

Summary

The responses from the participants in first semester showed that they had noted that their educational experiences in their home countries had not fully prepared them for study at an Australian university. In particular, they were aware they faced a significant knowledge gap. To bridge this gap, they were aware they needed to do more reading. However, they lacked confidence in reading genres to which they were not used. The type of academic texts the participants brought to the interview reflected their confidence in reading academic text. A2, the least experienced reader by his own admission, brought a book, never having read any journal articles. A1 brought a report as he was used to this genre in his work in India. The other participants brought articles but were not yet confident reading this form of writing. C2 mentioned that his article was relatively easy to read because it had been written by an author whose first language was not English. In addition to having done little reading, several of the participants had little background knowledge, other than general knowledge, or experience which could contribute to their interpretation of specialized academic texts. Yet various studies have shown that background knowledge aids interpretation (Carrell, 1983b, 1987; Garcia, 1991).

The participants' reticence in reading no more than they had to, at this stage, may reflect their oral culture. Reading is more difficult than speaking. As Robeck and Wallace (1990) stated, reading requires a wider range of general knowledge, it provides less contextual support, it uses different forms of discourse organization and different anaphoric devices.

Presenting students with various texts, however, is not necessarily a solution to bridging the gap between prior reading and present reading. According to Hynd (1998) students may not necessarily engage in thinking like their peers in their discipline by merely being presented with various texts offering differing viewpoints. She pointed out that students with little background knowledge (and she refers specifically to history studies) will read still for facts rather than 'to understand why the interpretation of events is different' (p.38).

In addition, there was little evidence of critical evaluation of text. Again, Hynd (1998) explains students are more likely to engage in critical reading of multiple texts if they have some background knowledge.

The general-interest text did generate discussion using background knowledge from India. Alexander et al. (1994) have shown that, when there is a match between readers' background knowledge and interests, there are significant, positive outcomes. For the various reasons explained, however, our participants had little background knowledge to draw on and so could not frame their academic texts extratextually although they could draw on some background knowledge to help process the general-interest text.

Background knowledge can, of course, inhibit as well as aid understanding. A2's knowledge of malaria led to his initial confusion. The endeavour to make one's background knowledge relate, when it does not, may be a misplaced strategy in the early days of reading unfamiliar text in one's second language.

In the case of B1 and B2 there was considerable discussion beyond the text because there was, as well as knowledge, a high level of interest. Finkbeiner (1998) and others have shown a correlation between interest and strategy use with students whose first language is not English. Even though C1 and C2, however, had medical knowledge they did not use it to make inferences. Perhaps background knowledge is not invoked when it could be, if readers are not confident in their reading abilities in their second language and are still 'text bound'.

Some of the participants could not only draw on their background knowledge to offer solutions to the problem described in the text, they also could relate the text to problems within their own Indian communities with suggestions for solving these problems. This awareness of multiple perspectives is to be encouraged in postgraduate students. The ability to extend the text could relate to acute interest in welfare issues in India. It has been demonstrated by Tobias (1994) that a substantial linear relationship exists between interest and prior knowledge. Several other studies, too, have shown a positive correlation (Alexander, Jetton and Kulikowich, 1994; Alexander, Kulikowich and Schulze, 1994).

Self-efficacy

The participants, even in their first semester, spoke of their awareness of increased self-efficacy. There was still the challenge, however, of reading academic text, particularly of the journal article genre related to their discipline. The participants had noticed increased benefits from their reading. A1 reported that many things were clearer to him now and if he had done his present amount of reading in India he could have written, he said, 'some wonderful papers'.

A1 seemed to suffer the greatest anxiety of all the participants when he first faced the large amount of reading required for postgraduate study. He explained the extent of his anxiety:

> *When I saw the books here, I was planning to move back* [to India] *and my brothers encouraged me and that is why I am staying here.*

In first semester it seems that the ability to make adaptations to, or change reading strategies, related to the participants' level of anxiety, level of interest and level of confidence. With sufficient interest and confidence, it seems the readers can draw on background knowledge when their in-text strategies are not adequate or they have few other similar readings to draw on. Background knowledge, however, unless specific to the academic reading, may only serve to confuse.

In third semester the participants, once again, brought a text from their own discipline area that they had read prior to the interview. The text for the pair think-alouds was again a New Scientist passage – a passage thought to be of general interest, not too lengthy and incorporating intratextual cues, such as a table and picture which could be used to aid understanding of the text.

Third Semester Reading Practices

Sociocultural Aspects Influencing Reading

Significant extratextual framing was used with the general-interest text presented in first semester leading to dialogue encompassing issues of welfare in their own countries and attempts to offer solutions to the problems described in the text and problems in their own countries. Although extratextual framing always occurs since it is impossible for readers to avoid drawing on their individual experiences, the participants generally could not relate to the third semester text in the same way as they did with the one provided in first semester. One reason could be that the content concerned a culturally unacceptable situation, the use of synthetic drugs to treat abnormalities. The general-interest text discussed a public health scandal in France. It was alleged that two former officials at the Central Pharmacy of Hospitals in Paris released doses of growth hormone that had not been treated to inactivate the rogue 'prion' thought to cause Creutzfeldt-Jacob disease.

A1 alluded to a different view on the use of growth hormone in India:

> *In India what I find generally they don't go for these artificial things, generally even doctors don't press it; they believe in natural processes, natural way.*

A1 added, referring to dwarfism in particular:

> *God create this dwarf, something like that … they don't treat it as a disease.*

Constructing Meaning: Individual Vocabulary Items

Two other participants, C1 and C2, while using little extratextual framing to comment on the passage as a whole, did, however, draw on their scientific knowledge to work out the meaning of the vocabulary item, 'urea'.

> C1: *urea can inactivate the protein which causes the disease*
> C2: *urea is a protein itself, a protein derivative, a nitrogenous chemical*

> *And nitrogen, the urea consists of two*
> C1: *molecule*
> C2: *two elements, one is nitrogen and another is hydrogen and mix up*
> *And then it called urea*
> C1: *urea, you can synthesize urea in the laboratory from nitrogen and*
> *from hydrogen or it can be derived from anywhere, from animal*
> *protein*

When asked in the retrospective interview what else 'urea' could be used for, C2 replied 'fertilizer' indicating his awareness of farming practices. C1 and C2 explained, too, that they could guess the meaning of the word from their medical background. However, despite this background these participants did not display the same level of interest as was generated in first semester, leading one to suggest that, because there was not the same cultural acceptance of the use of growth hormone there was not sufficient interest to engage in discussion of this topic.

Strategies for Accumulating Background Knowledge

Some of the participants, although having some relevant knowledge with which to interpret the text, found it difficult to extend that knowledge. C1 said, for example, that, because she was not allowed to practise medicine in Australia, it was difficult for her to extend her knowledge of drugs; besides, the names of the drugs in Australia were different from those in use in Bangladesh.

Several of the participants mentioned strategies which involved eliciting the help of professionals, not only lecturers but also professionals in the medical field. A2, for example, said he drew on information from the consulting doctor from Royal Perth Hospital to enable him to progress the computer programme he was developing as there was nothing in his background to prepare him for a project associated with the medical field. Another participant added to his knowledge through a return visit to India where he also organized a networking opportunity to allow further access to data for his project. He could not extend his knowledge with Indian colleagues through email as email access to India was limited and the data he needed, he said, were more up-to-date from India than from the Australian government.

In the computing field, there were other difficulties. B1 explained that he could not access much background knowledge from prior readings in India because networking to Indians is about 'joining to computers'. He said India was not a leader in the field of telecommunications because it did not have the research laboratories or the funds. There was some research going on but not 'on the fast track'. For these reasons, many Indians studied in America and did not return because returning was like going back to the 'cave age':

> *The pace is very slow; you cannot have things done really quick because*
> *800 million people there; everyone needs to be serviced; that takes more time,*
> *everything takes time.*

All the participants illustrated their determination to extend their background knowledge for their studies by devising strategies to help them to do this. The participants' accounts showed that, in some cases acquiring more knowledge could be difficult, particularly, if there were not the resources in their own countries or cultural differences in Australia such as the different names for drugs. It seems that supervisors not only need to be aware of students' knowledge gaps but of the difficulties they may yet face in trying to fill those gaps.

Significantly, the participants' reflections in third semester did not focus, as they did in first semester, on their lack of language ability, lack of conceptual knowledge or lack of knowledge about the Australian university teaching and library systems, although they were still aware of these aspects; rather the reflections concerned their strategies for overcoming any perceived disadvantage they may have encountered.

Making use of Socio-affective Strategies

Socio-affective strategies were among those mentioned. For example, to increase concentration, B1 had found that he could read better outside on the campus as opposed to inside the library where he found it to be too quiet. He mentioned the lack of opportunity, too, for discussion in the library due to the study carrels which inhibited contact with other students. This could relate to the oral culture to which he was accustomed.

Increased Confidence Levels

The participants reported in third semester a significant rise in their confidence levels. The main challenge for a reader of a second language may well be psychological rather than linguistic, according to Barfield (1995) and this seemed to be the case in this study. A2, for example, while reporting that he had improved his ability to read more felt his great achievement was increased confidence; he was confident enough now to hold discussions with American researchers via email, thus adding to his background knowledge. This was a significant change for a student who did little reading in childhood or throughout his tertiary studies and, indeed, did not enjoy reading.
The participants' reflections on their increasing abilities and greater sense of self worth are in line with research by Pajares (2000) who stated that students who developed a strong sense of self efficacy would be in a good position to educate themselves when they have to rely on their own initiative.

Summary

In summary, extratextual framing did not increase much between first and third semesters. Background knowledge could be invoked from work experiences in the case of A1 and B2, C1 and C2. These were, of course, culture-specific experiences and did not necessarily contribute to a full understanding of current texts.

Two major differences were observed during the second round protocols with the general-interest text. There was no discussion and no offering of solutions to the problems described in the text. When reading the first general-interest text, extratextual framing was used to generate significant discussion both about the material in the text and issues in participants' own countries. This extended emotive discussion was missing in the second round, as there was little extratextual framing. To aid understanding of their texts, though, participants generated analogies through what knowledge and experience they had either from their home countries or from Australia. Participants, moreover, made conscious efforts to accumulate local knowledge.

The educational and socio-cultural backgrounds impacted on the participants' expectations with regard to the content of their academic texts and other sources. One Bangladeshi participant realized that the topic of her academic text – excessive weight preoccupation – was more of a Western problem than an Eastern problem. Another Bangladeshi participant had noted that the use of a medical practitioner was much more of a family affair in his country compared to Australia. He noted, too, the fairly widespread use of sorcery and other forms of healing in Bangladesh were not to be found in Australia.

The participants' cultural background, too, affected the amount of conceptual knowledge that they brought with them relating to the disciplines they were studying in Australia. One Indian student mentioned the lack of expertise in the telecommunication field in India, resulting in few technical publications and hence his lack of knowledge in the field. Another Bangladeshi student suffered a lack of knowledge of his discipline, too, because psychiatric morbidity was not a topic of study in his country because a) it was thought not to be a problem in Bangladesh and b) it was considered to be of significantly less importance than other medical matters.

The conceptual framework of the study provided insights into the changing nature of the educational and socio-cultural influences from the home countries added to, and integrated with, differing influences and expectations from Australia and how they impacted on the reading processes of the selected student participants.

Conclusions

It seemed from the research that supervisors had the expectation that these international students would have relevant academic background knowledge and would have read discipline-specific texts. If students did not have this knowledge, the participants' accounts showed that it was presumed that they could access the library or the Internet and fill the gaps in their knowledge. The results showed that many students had difficulty accessing information during their first semester. There were several reasons given for this. Some of the participants, for example, were moving into different fields for which they only had general academic knowledge, perhaps only a general science background. Moreover, most of the participants came from a background where seeking

assistance from a supervisor was frowned upon and so they did not use this type of available assistance.

There was, moreover, the additional problem of incongruent background knowledge and the research revealed several instances of misinterpretation due to cultural background knowledge which did not 'fit'. Students, therefore, may need to re-conceptualise their knowledge; in other words, they may need to re-structure and re-think their knowledge to make it match current contexts. Volet and Ang (1998) indeed suggest that tertiary institutions need to be proactive, too, by designing learning and teaching environments which 'foster students' development of intercultural adaptability' (p.21).

All the participants, despite some mismatches in expectations between their home country universities and the Australian universities, proved without a doubt that they could demonstrate, in a relatively short time, considerable resourcefulness. All of the students made considerable adjustments to become more self-regulated in their learning by the end of first semester. This could relate to their bilingualism (Cook, 1992; Jimenez et al., 1996); being able to communicate in two or more languages, may have resulted in enhanced cognitive and metacognitive developments in a relatively short space of time. The students' accounts of their reading practices and the influences on their reading practices helped to extend our understandings of how reading is carried out using extratextual framing and knowledge of self; their accounts, moreover, highlighted their expectations of the place of reading for postgraduate study and how they dealt with any mismatches in their expectations.

Their accounts highlighted, too, the areas in which universities can help to bridge the gap in expectations, knowledge, language and culture. Raised awareness of these areas by staff and students followed by a willingness to understand and find out more about the different academic cultural environments is very important in order to help these students to perform more successfully earlier in their studies. Finally, adaptations to curriculum content and processes and supervisory teaching style may help to enhance the international postgraduate student's learning experience in Australia.

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